FOREST TENURES

Province of
British Columbia

Ministry of
Forests and Lands

88-02100/

About Timber Harvesting Agreements

This is a guide to forest tenures in B.C.

Tenure means "a legal right by which property is held." In this context it means the right to harvest timber on Crown (that is, public) land.

B.C.'s *harvesting agreements*, the licences and permits held under tenure by individuals and forest companies, are administered by the Ministry of Forests and Lands.

The ministry's *mandate*, its legal responsibility, includes issuing permits for grazing livestock and maintaining the forests' recreational potential. This booklet, however, describes only the ministry's role in administering timber harvesting agreements.

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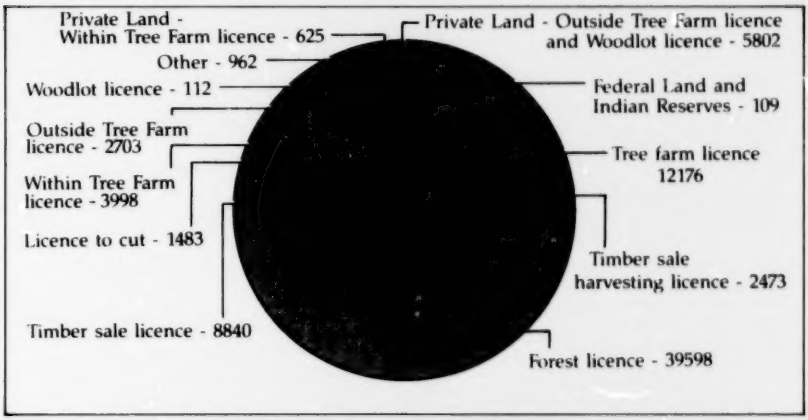
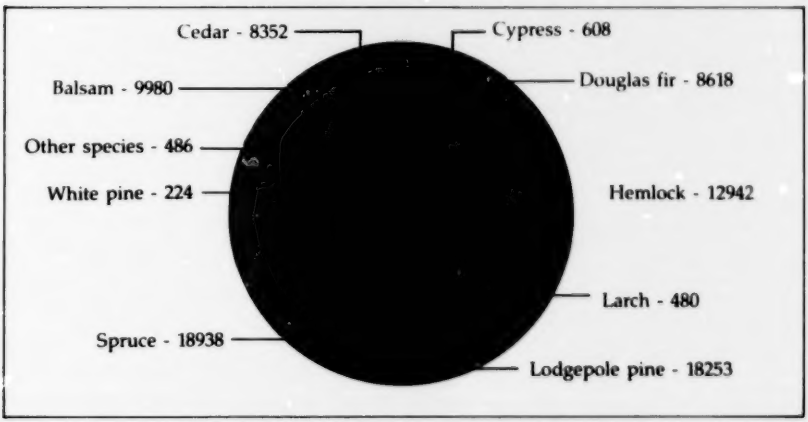
B.C.'s Forest Industries

Forests cover more than 40 million hectares of B.C.'s 95-million-hectare land mass — a vast, valuable, natural resource. B.C.'s forests are a storehouse of more than eight billion cubic metres of mature timber. These trees are the fuel that runs B.C.'s economic engine.

Altogether, multinational corporations, national, local, independent logging companies and small woodlot owners annually harvest as much as 78.9 million cubic metres of timber in B.C. Almost all of the harvest is "softwoods" — especially Western hemlock from coastal forests, spruce and lodgepole pine from the interior.


Private Land - Within Tree Farm licence - 625
Private Land - Outside Tree Farm licence and Woodlot licence - 5802
Other - 962
Woodlot licence - 112
Federal Land and Indian Reserves - 109
Outside Tree Farm licence - 2703
Tree farm licence 12176
Within Tree Farm licence - 3998
Licence to cut - 1483
Timber sale harvesting licence - 2473
Timber sale licence - 8840
Forest licence - 39598

Volume of all products billed in 1985/86 by Land Status (In thousands of cubic metres)



Volume of all products billed in 1985/86 by species (In thousands of cubic metres)

Besides ensuring that the timber harvest is orderly, careful and sustained, the Ministry of Forests and Lands protects public forests from fire, pests and disease, and restocks denuded land with desirable tree species or provides for natural restocking.

As the manager of the forests, the ministry has developed a co-operative relationship with its chief clients, a relationship which has become, in effect, joint stewardship of the forest resource.

To maintain the province's long-term economic interest in the forest resource, the ministry sets standards and incentives for good harvesting and forest management practices.

More than 83,000 people worked in B.C.'s forest industries in 1986: 24,000 in harvesting, 45,000 in wood manufacturing and 14,000 in paper and allied industries. They're loggers and truckers, sawyers and graders, pulp chemists and electronics engineers and a host of other jobs and professions.

In addition, between 10,000 and 20,000 contractors work in silviculture, preparing sites for regeneration, planting seedlings on more than 125 000 hectares of denuded land annually, and tending growing forests on another 75 000 hectares.

Thousands more people provide services to scores of timber-based communities: supplying and servicing heavy equipment, teaching in schools and staffing supermarkets, to name a few.

B.C.'s economy depends critically on the high volume of its forest products that move to foreign markets.

B.C. is the world's largest exporter of lumber.

In 1985, the wood manufacturing industry produced 33 million cubic metres (14 billion board feet) of lumber. Sales of lumber and other wood products totalled $5.1 billion; wood pulp production and paper products in 1985 totalled 5.8 million tonnes and, together with paper products, rang up $3.4 billion in sales.

Altogether, forest products accounted for 44.7 per cent of the total value of B.C.'s manufactures.

History Shaped B.C.'s Forest Tenure System

Canada's constitution gives provincial governments the responsibility for administering natural resources.

Since B.C. became a province in 1871, important changes have taken place in the management of its forest resources. To this day, however, the provincial government has retained ownership of 94 per cent of B.C.'s lands.

Successive provincial governments have nurtured the growth of the private sector in developing the forests through *forest tenures*. Statutes enacted by the B.C. Legislative Assembly provide the legal framework for the tenure system.

This system developed in four "generations." All are "alive" today in some form of tenure.

Before 1912: Opening up the Forests

The B.C. government's earliest efforts to develop the forest resource resulted in large land transfers to private hands. Outright land grants to railways and timber companies were considered necessary to attract capital and labor to the province.

The 775 000-hectare Esquimalt and Nanaimo (E and N) Railway land grant on Vancouver Island was one of the biggest. It included some of the best forest lands in the world.

Since then, parts of the E and N Railway lands have passed through several hands to become privately-managed timber lands.

Next, the province started selling timber while retaining title to the land.

A variety of timber "leases" and "licences" were used to develop new forest supplies for mills that were springing up, and the "rents," or fees, and taxes furnished the government with modest funds for its needs.

Some rights could be bought and sold without restriction. These licences proved so popular that the number issued jumped from 1,500 to 15,000 in three years. This prompted the government to stop issuing them.

Title to the leased lands reverted to the Crown after the timber was harvested, but many survive today in the form of **Timber Licences**. They account for only a small portion of B.C.'s forest land, but some involve rights to valley-bottom land bearing the highest-quality timber.

In 1908, the government commissioned forester Fred J. Fulton to inquire into how B.C. could best manage its forest resources. Fulton's 1910 Royal Commission report paved the way to the passage of B.C.'s first *Forest Act* in 1912.

1912 to 1947: A Partnership is Born

The 1912 *Forest Act* established a system of "forest reserves." These lands, officially earmarked for timber harvesting, are now called **Provincial Forests**.

About 86 per cent of B.C.'s total area has been designated Provincial Forest by successive elected governments, to ensure that the forest land base continues to provide successive crops of timber or forage.

To administer the forest reserves, the act created a **forest service**, under a **chief forester**. This was the ministry's original form.

The *Forest Act* also ushered in a form of tenure that was the rule until 1947: the sale of a one-time right to log a specific timber stand.

B.C.'s forest industry thrived.

On the isolated Pacific coast, independent "hand-loggers" worked alongside crews with big companies, using the new technology of gas-powered chainsaws, cable-logging and diesel-powered trucks. Production surged at sawmills with steam-driven headrigs, while new pulp mills used the latest pulping chemistry to make pulp from long-fibred wood.

The back country, however, remained largely undeveloped. With vast timber stands held in reserve, few companies saw the need to follow logging with good forest management, even in well-developed areas.

The problem of improving forest management was studied by the Sloan Royal Commission in 1945. Hon. Gordon Sloan's proposals were put into practice by *amending*, or revising the Forest Act in 1947.

1947 to 1978: Security of Tenure

Sloan suggested that the province's forest lands be organized into "sustained yield units," an area regulated to provide timber to the mills in and near it for an indefinite period. Today these units are the basis of timber management in B.C.'s tenure system.

The 1947 amendments created two kinds of forest management units:

- **Tree Farm Licence (TFL)** areas managed by one company, and originally called "Forest Management Licence areas."
- **Public Sustained Yield Units (PSYU),** which permits sharing of the unit's timber.

Companies with large mills found long-term, supply security in the TFL form of tenure, which provides a timber supply area large enough to ensure a steady flow of timber to the company's mills. Originally designed to be held in perpetuity (forever), TFLs now have a 25-year term and are *replaceable* — a company can replace an old licence with a new one — after 10 years.

TFLs are intended to provide a company with incentive to practice good management — restock denuded land, and tend and protect the forest "crop" — so as to sustain its timber supply from the unit.

With the development of good roads and rail links in B.C.'s interior, the hinterland forests opened up. Thousands of tiny "bush mills" sprang up, only to disappear when larger sawmills were built on transportation routes. They, too, with their once-familiar "beehive" waste wood burners, have been replaced by a new generation of larger, more efficient mills.

Much of this new development took place in PSYUs in the 1960s, after the ministry began assigning a fixed timber position (called an *allowable annual cut (AAC).*

To take advantage of improved harvesting technology, the government offered companies incentives for harvesting smaller and lower-grade timber.

At the same time, new uses were found for sawmill residues and for timber that was below sawlog-grade.

One of these was the production of woodpulp — a development that dramatically changed the province's interior.

New pulp mills took advantage of available wood-fibre residues and cheap power from hydroelectric power generators. Today 10 of the province's 24 pulp mills are in the interior towns.

During this period of the industry's greatest expansion, forest-management practices developed much faster in some areas than others. The reason was partly lack of public support for silviculture.

The second Sloan Commission Report in 1954 concluded that the sustained yield management approach was appropriate but recommended that no further TFLs be issued because their numbers had taken an appropriate share of the timber supply.

In 1976, Royal Commissioner Peter Pearse reported on the state of the forest industry and forest management. The report led to the most sweeping change in forest administration since 1912.

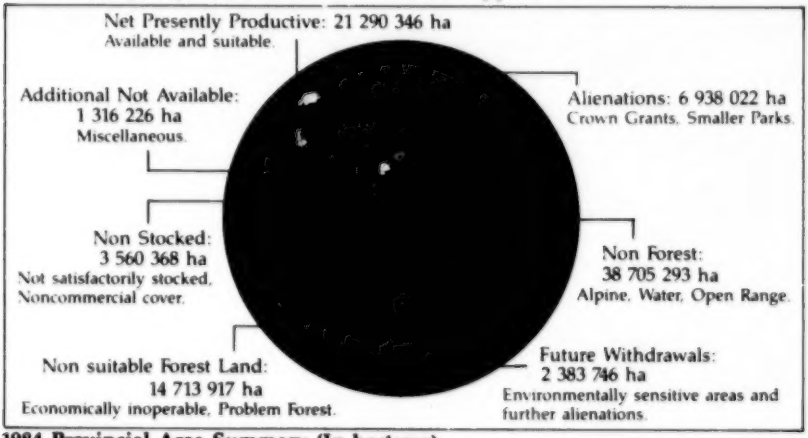
Since 1978: Making Forest Management Work

A new *Forest Act* was adopted by the Legislative Assembly in 1978. With various *regulations* adopted later, the act laid out a rational and legal basis for the Crown's management of provincial forest lands. Included were provisions for:

- designating Crown land as Provincial Forest;
- setting harvest rates;
- making long-term licenses replaceable without competition;
- obtaining, transferring and losing timber rights;
- establishing licensees' responsibilities under various tenures:
  - paying fees for rights to harvest Crown timber,
  - building roads,
  - protecting the forest,
  - reporting on development and management activities.

Behind the new *Forest Act* was the recognition that the forests were not limitless. In earlier years, there had always been another valley to log beyond the present site.

The new act responded to the challenge of managing a limited land base sensibly to provide continuous timber supplies.



1984 Provincial Area Summary (In hectares)
Total area excluding Major Parks - 88 907 918 ha

Under the new act, tenures in PSYUs were revamped and the units renamed **Timber Supply Areas (TSAs)**.

As of 1986, the province's 33 TSAs support a total harvest of more than 50 million cubic metres.

The major harvesting authority in TSAs is called a **Forest Licence**. These provide companies, with large investments in mills, with a security of long-term timber supplies, in the form of replaceable 15-year tenures. Under this tenure, companies have responsibilities for forest management — planting seedlings, tending and protecting young forests.

New tenure forms were established to reflect B.C.'s many timber users and their differing capabilities to manage forest land.

One innovation was a program to encourage small, new businesses under the **Small Business Enterprise Program**.

Another was the flexible, short-term **Timber Sale Licence**.

The **Woodlot Licence** was created for landowners and others wishing to manage small woodlands on a continuing commercial basis.

The Ministry Today

Another new law passed in 1978, the **Ministry of Forests Act**, created the Ministry of Forests. Section 4 of this act outlines the ministry's purposes and functions:

"(a) encourage maximum productivity of the forest and range resources in the Province;

"(b) manage, protect and conserve the forest and range resources of the Crown, having regard to the immediate and long term economic and social benefits they may confer on the Province;

"(c) plan the use of the forest and range resources of the Crown, so that the production of timber and forage, the harvesting of timber, the grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation and other natural resource values are coordinated and integrated, in consultation and cooperation with other ministries and agencies of the Crown and with the private sector;

"(d) encourage a vigorous, efficient and world competitive timber processing industry in the Province; and

"(e) assert the financial interests of the Crown in its forest and range resources in a systematic and equitable manner."

Other sections detail the reports the ministry must make to the public on the state of the forest resource:

- every 10 years, the ministry must conduct a thorough **resource analysis** (the last was published in 1984).
- every year an **annual report** and a **five-year program** must be made public.

Today, the ministry consists of 46 **district managers**, supported by six **regional directors**, who supervise forest, land and range management operations.

The districts administer the terms of the various harvesting agreements and carry out field activities in protection, silviculture, and range and recreation management.

The ministry's central branches provide policy and procedural guidelines so that district activities are carried out consistently and fairly.

The ministry's executive, headed by the deputy minister, gives overall direction.

B.C.'s Forest Tenures

The forest tenures the ministry administers today include the following harvesting agreements. The smaller licences are issued by forest districts. Forest Licences are issued by the forest regions, while TFLs and pulpwood agreements are issued from the ministry's headquarters in Victoria.

Wood Licence:

These tenures are 15-year licences. They are issued to rural residents to manage a specific area of Crown timber, plus any private woodlands they hold, according to sound forest-management practices.

They are replaceable every five years.

Like the licences for industrial operators, these licences require holders to file a management and working plan with the ministry and to harvest at a predetermined rate.

In 1985-1986, 156 Woodlot Licences accounted for 112 000 cubic metres of timber harvested from Crown Land.

Timber Sale Licence for Small Business Enterprise:

Short-term timber sale licences for specific areas of Crown land are offered to small business loggers and to timber processors who qualify for registration under the ministry's Small Business Enterprise Program.

The two classes of operator are registered under separate categories.

Each category has its own qualification requirements, including experience and, for timber processors, mill ownership.

The extent of longer-term timber-cutting rights that may be held by either category is limited to a timber position or AAC of not greater than 10 000 cubic metres a year.

The licensee's activities are confined primarily to harvesting, and the ministry assumes the responsibilities of over-all planning, major road construction, timber-sale-area selection and cruising (that is, field study), silviculture (including tree-planting) and forest protection.

In 1985-1986, 1,511 timber sale licences for small business enterprise accounted for a cut of just under seven per cent of B.C.'s Crown timber harvest.

Timber Sale Licence (Major):

These tenures are licences providing established operators with a 10-year harvesting right AAC over undefined areas of Crown land in a TSA.

These licences can be replaced in their last year.

About 200 of these licences are still in place, accounting for 1.1 per cent of the Crown timber harvest in 1985-1986.

Forest Licence:

The Forest Licence, the major forest-tenure form in B.C., is relatively secure.

It usually provides a replaceable 15-year AAC in a TSA to an operator who usually has an established or proposed mill.

Management requirements are stringent: licensees are required to:

- file management and working plans, prepared by a registered professional forester, every five years;
- file development plans every year; and
- to practice silviculture on logged sites.

Companies with a replaceable Forest Licence have the option of applying for more secure timber supplies by converting their licence to a TFL.

The 186 Forest Licences account for almost 55 per cent of all Crown timber harvested in 1985-1986.

Timber Sale Harvesting Licence:

Three of these licences, remnants of an old form of tenure, remain in northern interior TSAs. They account for about 3.4 per cent of the province's annual harvest.

Pulpwood Agreement:

This provides an option for the owner of a timber-processing facility to harvest standing timber in a pulpwood area, if its supply of wood residues, produced by other timber processing facilities from timber harvested in the pulpwood area, is interrupted.

These agreements have a replaceable, 25-year term.

The agreement holder is obligated to purchase available wood chips at reasonable prices before the option to harvest may be exercised.

Tree Farm Licence:

This is the most secure forest tenure: a replaceable, 25-year licence that conveys exclusive harvesting rights to a specific area.

TFLs can only be established after a public hearing.

Licence requirements include:

- approval by the ministry's chief forester for the area's AAC;
- submission of management and working plans and development plans;
- practising sound harvesting and land management; and,
- conforming with higher standards of use and silviculture than in other tenures.

In 1985-1986, 30 TFLs accounted for 17 per cent of the province's total annual harvest of Crown timber — 84 per cent of this was in the coastal region.

While most holders of TFLs are major companies, several small TFLs are held by smaller companies, one by an Indian band and one by a district municipality.

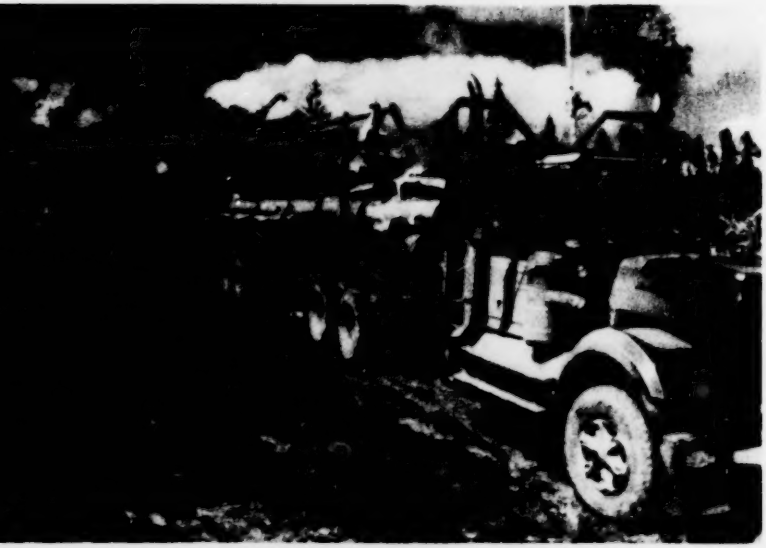
Timber Licence:

Some timber licences, (formerly "old temporary tenures"), still apply to lands that have not yet been logged. Title to the land will revert to the Crown after logging. Many have been incorporated into TFL areas.

Forest-Use Permits

In addition to administering harvesting agreements, the ministry also issues the following permits:

- **A Free Use Permit:** it may be issued to authorize the cutting of firewood for personal use; to mineral prospectors for timber to develop their claims and leases; and for other uses.
- **A Licence to Cut:** it is issued to allow harvesting where the purchaser or occupier of land does not otherwise have the right to harvest Crown timber — under an agricultural lease, for example.
- **A Christmas Tree Permit:** it supports the business that supplies the seasonal market for Christmas trees.
- **A Cash Timber Sale:** it allows the forest district manager to enter into a harvesting agreement without advertising or accepting applications from other persons, where *stumpage* payable is less than $500.
- **A Special Use Permit:** it is issued when a person needs to use Provincial Forest land for a forest-use related purpose, such as for log dumps and logging camps.
- **Road and Cutting Permits:** harvesting operations are regulated at the local level by yet another kind of legal document — the *permit*. A licensee is required to apply for and obtain both a **Road Permit** and a **Cutting Permit**. When applying for a cutting permit, a licensee submits to the district manager information about the timber, landscape, environment and other features of the site. The district manager may write special provisions into the permit.



btaining Permits to Harvest Timber

The ministry is empowered to control both the quality and quantity of rvesting operations.

Stringent planning and reporting requirements, specified in the *Forest* , pertain to different harvesting agreements. Under most tenures, for mple, harvesting plans have to be prepared and reviewed by registered fessional foresters. These are supplemented by co-operative agreements t have proven effective in planning harvesting operations.

Overall, ministry policy is to protect the productivity of the land, other resource uses as well as timber production, through *integrated urce use planning*.

Carefully-controlled harvesting keeps valuable forest lands in mmercial production.

A great deal of preparation precedes the average harvesting operation. well, both government and industry have forest ecologists concerned h harvesting impacts.

Harvesting is followed by many man-days of silviculture and other vities.

As the following outline shows, TFL holders generally assume more ponsibility for managing forest lands than do licensees in TSAs. ndards of forest management are often considered to be higher in TFLs.

Maintaining the Forest Inventory

The first stage in wise forest management is to establish the best harvest rate — the AAC — for each TFL and TSA.

The basis for this calculation is the forest **inventory** — an accurate record of a unit's standing timber and what happens to it over time. Forest inventories are important for the same reason it's important to keep a bank account up to date. Thus, the *Forest Act* begins by directing the ministry's chief forester to "develop and maintain an inventory of the land and forests in the province."

B.C. has a state-of-the-art forest inventory system, which uses satellite imagery, computer simulations and other technological aids to refine and update data collected from the field.

Tree Farm Licencees maintain their own inventory data on timber supplies. Some of the big companies have staff specialists and records of all management activities undertaken over more than 30 years. These companies also perform their own analysis of future yields to establish the best harvest rate.

Larger companies with licences in the TSAs have similar data. But the ministry's planning and inventory branch organizes timber supply data for each TSA in its periodic **yield analyses**.

Management and Working Plans for Tree Farm Licences

The next step in planning the timber harvest is to set strategic goals.

Section 28 of the Forest Act spells out the requirement for TFL holders. Every five years, the licensee must submit a **Management and Working Plan** to the ministry's chief forester. In the plan the licensee makes commitments for sound forest management under its operations in the TFL for the following five years — what areas will be harvested and at what rate, measures to protect the growing forest and reforesting work to be undertaken (expressed as a number of seedlings to be planted within a given time limit).

These proposals, and the company's plans and data for the TFL, are made available for public review and comment. Then the chief forester sets the AAC for the unit and approves the plan — sometimes amended — which becomes the licensee's mandate to continue managing its licence.

Timber Supply Area Plans

In TSAs, holders of Forest Licences, Timber Sale Licences (Major) and Woodlot Licence holders are also required to submit Management and Working Plans for the areas they have chosen to harvest. Overall, however, the ministry's yield analysis data forms the basis for considering the best harvest rate for the TSA, and the result is published in a TSA Plan by the forest region director.

As with a TFL Management and Working Plan, the TSA Plan specifies standards of forest management to be followed or exceeded. Draft copies of these and supporting documents are made available to the public and other forest users, and the chief forester sets the AAC at the end of lengthy consultation.

Finally, the AAC is *apportioned* among different forms of licence, after the minister considers the rate of harvesting under existing licences and the possible impacts of reduced rates of harvest.

More About Allowable Annual Cuts

Like the throttle and brake on an engine, the AAC can speed up or slow down the timber harvest. Today, the AAC is the main economic "regulator" for many parts of the province, in both TFLs and TSAs.

Setting the AAC is a complex task. Section 7 of the Forest Act specifies the factors the chief forester has to weigh:

- the level and length of time the harvesting can be sustained;
- the opportunities for increasing the harvest through silviculture and better use
- the short and the long term implications of harvesting more or less timber;
- the forest industry timber needs;
- the larger "economic and social objectives of the Crown;"
- the need to salvage devastated timber.

The AAC can be increased or reduced while a five-year plan is in force.

If new licences are issued, for example, to salvage wood from a large forest fire, then the ministry's *commitment* of timber may rise above the AAC, and the AAC has to be adjusted upward. The next round of yield analysis will take this information into account in recalculating the AAC.

If a licensee routinely increases future yields through silviculture, or increases present yields by using more of the forest, its AAC can be increased. Conversely, poor land management or use can result in the ministry reducing an AAC under a Forest Licence, a TSL or a TFL.

Logging at a rate too low or high is not permitted.

The licence allows a licensee to cut 50 per cent above or below its AAC in any given year, as long as the five-year average is always within 10 per cent of the target. This restriction was designed to ensure that harvesting supports a stable industry workforce, but does not outstrip the growth of new timber.

Land is sometimes deleted from a TFL or TSA for other purposes, and the AAC has to be lowered proportionately if its productive forest land is reduced.

Section 53 of the *Forest Act* protects the licensee's rights to timber in this way: if the reduction amounts to more than five per cent of a licence's AAC, then the licensee is entitled to be compensated for the loss in excess of five per cent.

Five-year Development Plans

The next stage in wise forest management is sound planning of forest developments.

Following approval of the Management and Working Plan by the regional director, every major licence holder has to submit for the district manager's approval a **Five-Year Development Plan**.

Development plans are "site-specific." They show where the company will be building roads and harvesting for the next five years, and they must be updated every year.

Development Plans allow the ministry and other forest users to check a company's intentions against the licence's requirements. Before approving a Development Plan, the district manager may submit it to other agencies for study, comment and amendment, or ask the licensee to conduct further field assessments or to submit more accurate information.

After consultation, the district manager can ask a company to review and change its decisions about such matters as the locations of roads, the method of logging and the ratio of cut versus "leave" areas.

The ministry may also want to resolve outstanding conflicts over some particular area where harvesting may, for example, affect a watershed that supplies water to a community. If so, a process known as local resource-use planning may be employed to gather information about the area and its resources, and to provide a number of resource-use alternatives as a means of resolving the conflict.

Controlling the Effects of Harvesting

Before a forest area is harvested, crews cruise the timber, conduct field surveys and build the roads. Then loggers take over. They fall, buck and "yard," or move, the sound timber to trucks (or, on some coastal sites, to waterside booming grounds), leaving some broken or low-quality timber on the site.

At the same time, another crew is working on a second area nearby, while up the valley, the road crew is finishing the groundwork for a "show" of six small cutblocks.

In B.C. the most common way of harvesting timber is *clear-cutting*: most or all the trees in a stand are felled.

Clear-cutting is the most efficient and economical method of harvesting many coniferous forests. Conducted properly, clear-cutting is most likely to produce a vigorous growth of young trees.

Many people, however, have concerns about the environmental effects of using heavy machinery to build roads and open the forest cover — possible soil erosion, and effects on water quality, fish-spawning areas, wildlife habitat, and the forest's ability to regenerate.

These concerns are being answered today.

As a result of study and experience, harvesting techniques can be adapted to most sites. Here are a few examples.

Special yarding and stream-protection techniques are applied at the planning stage to maintain a stream's capacity to provide unimpaired salmon spawning.

On sensitive slopes where there is heavy precipitation, traditional ground-skidding — dragging the logs behind heavy rubber-tired machines or crawler tractors — has given way to "high-lead" and "skyline" yarding systems, which hoist the logs off the ground and move them by suspended cables.

Along fish-spawning streams, operators sometimes are required to leave strips of timber to prevent increased stream temperatures.

In steep coastal areas, where rains threaten to create mass "wasting," or soil erosion, these techniques are combined with "hydroseeding" — spraying the slopes with fast-growing grass seeds in a liquid — to maintain slope stability. Special diverters may be used in the streams to protect salmon habitat from debris.

Experience shows that other logging methods "work" better than clear-cutting in some places.

One of these is called "selective logging" — commonly used in the dry, interior Douglas-fir forests, where there's enough space between the trees to fall and skid timber without disturbing younger stems.

The remaining trees grow at an accelerated rate when this competition has been removed, and they, in turn, are harvested when they have grown to fill in the spaces.

Shelterwood harvesting works on a similar basis: leaving a canopy of trees to protect established young growth while it continues to grow normally.

In coastal forests, where big timber is sometimes impossible to reach by road, large helicopters may be used to lift logs out and down to a landing or into the water. In the future, helicopters and even dirigibles could well be used to selectively harvest some stands.

The size and shape of clearcut harvesting operations can also be controlled by planning.

Forested "leave strips" can be placed between cutblocks so that deer will be able to use them for cover. The openings can be made very small, and when they have been reforested, the leave strips will be harvested.

In scenic areas, where harvesting activity is highly visible, the outlines of openings can be softened by making the boundaries follow the "lie of the land," using the techniques of *landscape management*.

After a harvesting operation it's hard to see a new forest growing. Probably seedlings won't be noticeable for five or more years, and a new canopy won't form for more than 20 years. But it is a policy to hasten the regeneration of commercial species.

Reforestation is a responsibility shared by the ministry and the forest industry. Increasingly the industry is taking the lead role "on the ground,"

while the ministry, the "landlord," sets standards and monitors operations as part of administering harvesting agreements.

Modern forestry techniques often involve preparing sites for natural seeding by scarifying the soil or burning the logging debris.

If the site requires conifer seedlings to be planted to get the new forest growing, it will be done before competing vegetation gets established. Contractors to the industry or government planted seedlings on 50 per cent of land logged in 1985.

After being planted, the seedlings may require assistance through brush control, by the use of herbicides or other techniques, until they are "free-growing."

Post-Harvesting Inspections

During and after harvesting, operations are closely monitored to ensure they conform to the approved Development Plan and meet the standards set out in the Management and Working Plan.

The ministry's involvement in field inspections depends on the terms of the licence.

Licence holders can choose to assume full responsibility for field supervision, via a *subsidiary agreement*, a document added to the Management and Working Plans of major licences.

Generally, the ministry's district staff make one on-site assessment following harvesting, to ensure the licensee has lived up to the contractual conditions regarding the timber it has harvested, the amount of waste and broken wood left on the site, and any work left undone.

Officials with other agencies, such as the department of fisheries and oceans, may make inspections at any time, however, as part of their duties — in this case administering the *Canada Fisheries Act*.

Timber Scaling

While timber is on its way to the mills, ministry or company *scalers* perform an important calculation to determine the volume of timber harvested. This volume will be registered against the company's AAC.

Depending on the timber's market value, the licensee must pay a varying amount of stumpage fees for the volume of Crown timber it harvests.

Stumpage fees represent the value of the standing timber that is sold to the tenure holder. (Privately-owned timber is not subject to these fees.)

Harvesting Agreements in Brief

British Columbia's forest tenure system is based on a body of

Laws

(Forest Act, Range Act, Ministry of Forests Act) by which the Ministry of Forests and Lands administers

Licences

(Tree Farm Licences, Forest Licences and others)

Plans

(Management and Working Plans, TSA Plans, Development Plans) and

Permits

(Road Permits, Cutting Permits and others) to allow timber harvesting to proceed in an orderly and careful manner.

How to Contact the Ministry of Forests and Lands

For more information on forest tenures, contact the nearest forest region or district office or the

Timber Policy Branch,
Ministry of Forests and Lands,
1450 Government Street,
Victoria V8W 3E7